

東南極リュツォ・ホルム岩体の減圧時間推定の予察的試み

池田 剛¹

¹九州大・地球惑星

Preliminary attempt to decipher time scale of decompression of the Lützow-Holm Complex, East Antarctica

Takeshi Ikeda¹

¹*Department of Earth and Planetary Sciences, Kyushu University*

Resorption of garnet due to retrograde metamorphic reactions brings enrichment of elements such as Mn and Fe at the periphery of garnet grains. These elements migrate into interior of garnet grain by volume diffusion. Continuous change of pressure during retrograde metamorphism leads not only grainboundary migration by consumption of garnet but also increase of thickness of the compositionally modified area by volume diffusion. The former will decrease the zoned thickness in contrast to the latter that will increase it. Therefore the thickness of zoned area would provide us any information of competition of these two processes.

This study compared two garnet zonings in pelitic gneisses from Akarui Point and Skaren, Lützow-Holm Complex, East Antarctica. Garnet from Akarui Point has zoned area of about 200 μ m thick in contrast to garnet from Skaren that associates zoned area of about 50 μ m. This may imply that rocks in Akarui Point exhumed more slowly than those in Skaren. Several simple assumption may enable us to estimate time scale of decompression.